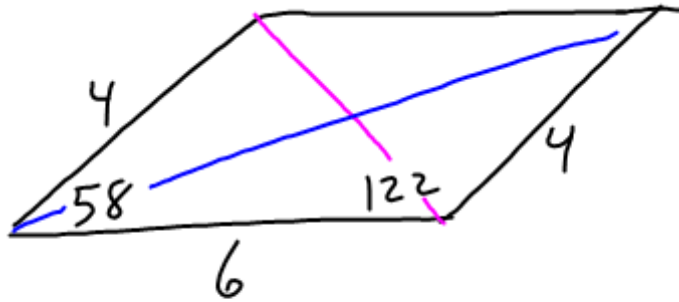


(40)

Blue

$$B^2 = 6^2 + 4^2 - 2(4)(6)\cos 122^\circ$$

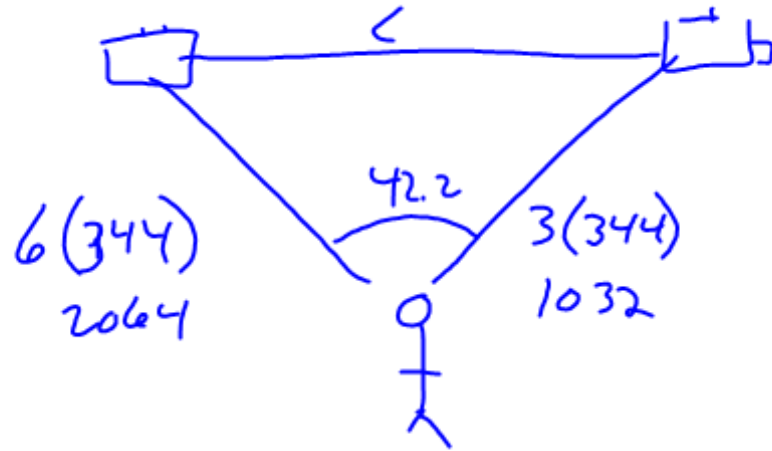
$$B \approx 8.8$$

Pink

$$P^2 = 4^2 + 6^2 - 2(4)(6)\cos 58^\circ$$

$$P \approx 5.2$$

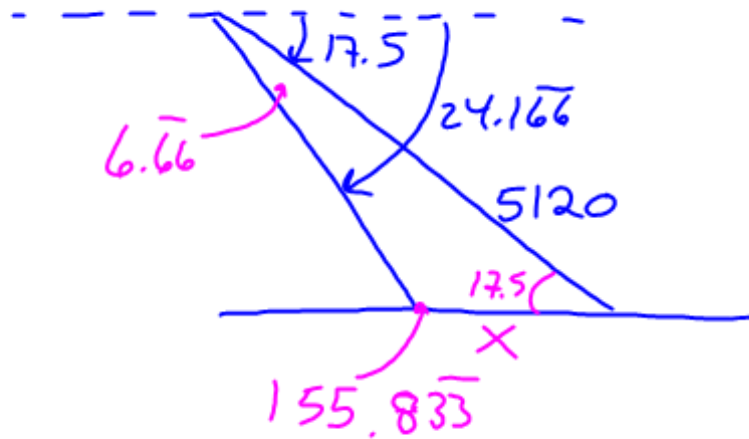
(52)



$$C^2 = 1032^2 + 2064^2 - 2(1032)(2064)\cos 42.2$$

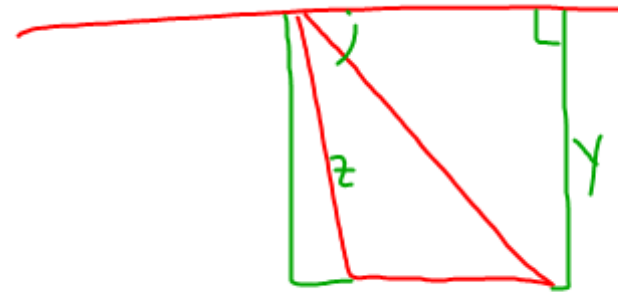
$$C \approx 1473$$

44

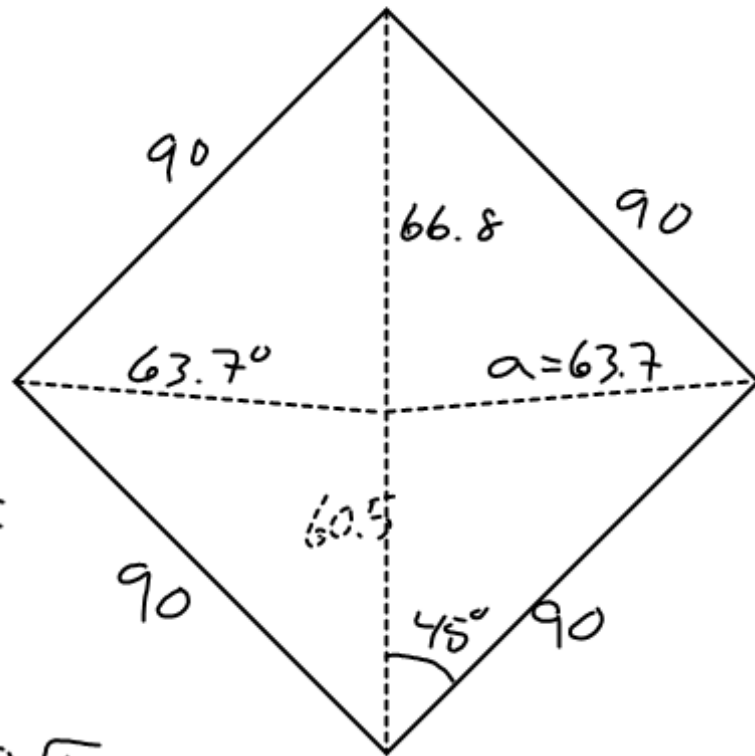


$$\frac{\sin 155.833}{5120} = \frac{\sin 6.66}{X}$$

$$\underline{\underline{X = 1451.9}}$$



(49)



$$a^2 = 60.5^2 + 90^2 - 2(60.5)(90)\cos 45^\circ$$

$$a^2 = 4059$$

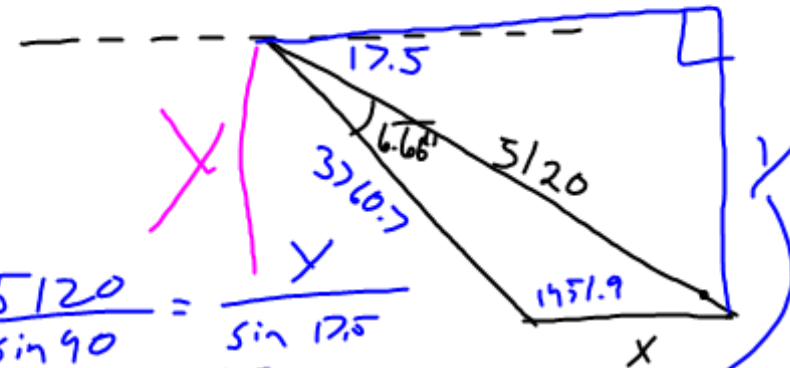
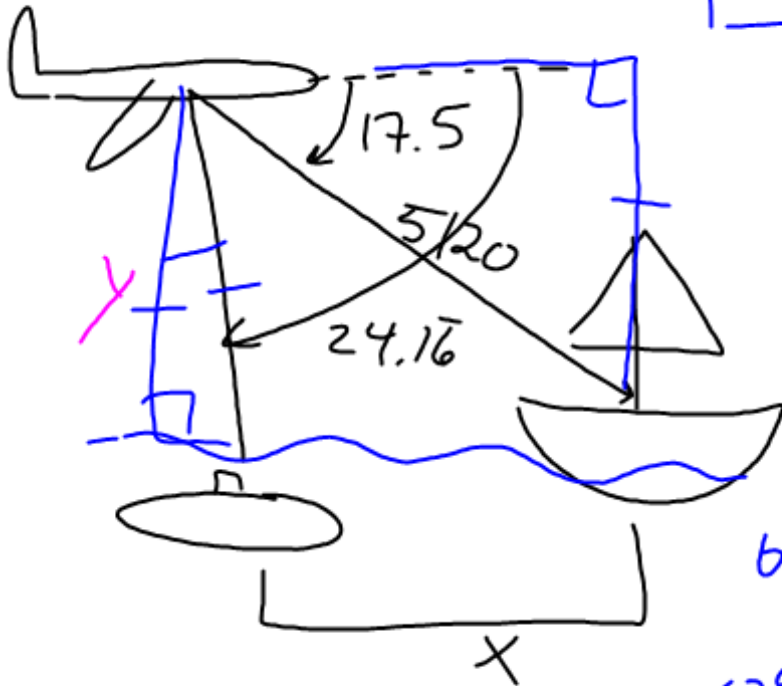
$$a = 63.7$$



$$\begin{aligned} 90\sqrt{2} &= 127.3 - 60.5 \\ &= 66.8 \end{aligned}$$

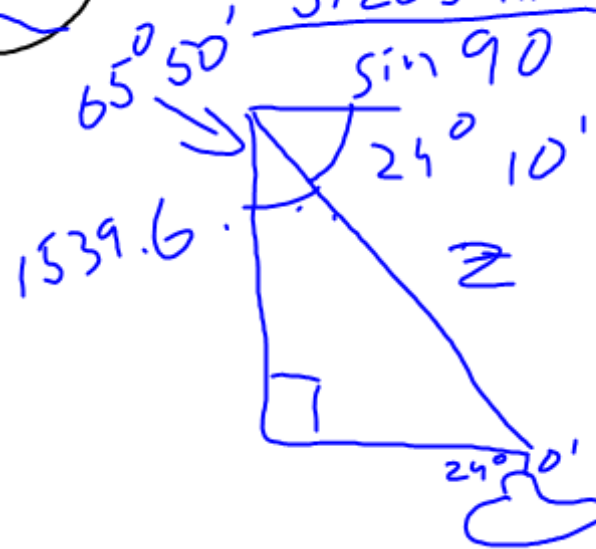
44

1451.9



$$\frac{5120}{\sin 90} = \frac{Y}{\sin 17.5}$$

$$\frac{5120 \sin 17.5}{\sin 90} = 1539.6$$



$$\frac{1539.6}{\sin 24^{\circ} 10'} = \frac{2}{\sin 30}$$

Read p. 305 + p. 306 and understand it. Look for:

- Difference between scalar and vector
- how to name vectors
- Adding vectors - 2 ways
- subtracting vectors
- opposite and zero vectors
- Scalar product  $\rightarrow$  magnitude, direction,  $k > 0$ ,  $k < 0$

## Adding Vectors

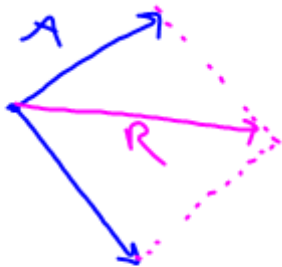


Tail to Head, result from 1<sup>st</sup> tail to 2<sup>nd</sup> Head



use common sense

Tail to Tail, result is the diag. of parallel.



neg. vector



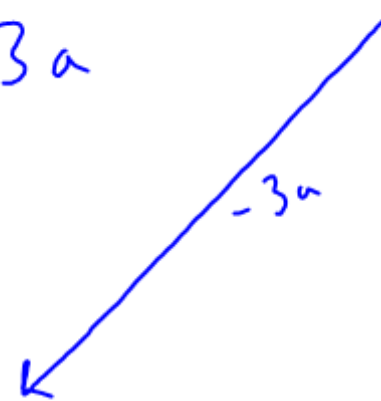
Scalar Product



$2a$

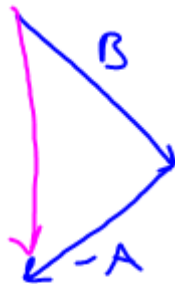


$-3a$

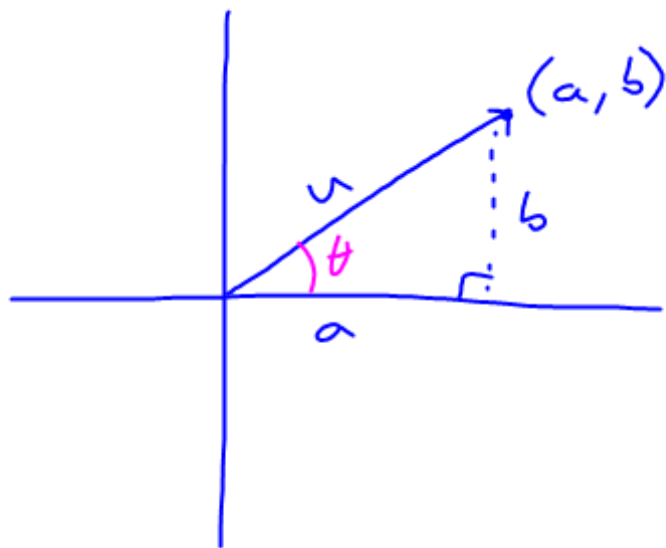


Subtracting vectors

$$B - A \rightarrow B + -A$$







position vector  $u = \langle a, b \rangle$  on coordinate plane with tail at  $(0,0)$

$\theta = \tan^{-1} \frac{b}{a}$

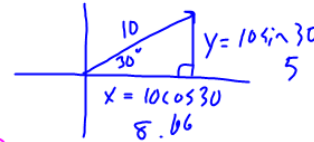
x-coord of Head

y-coord

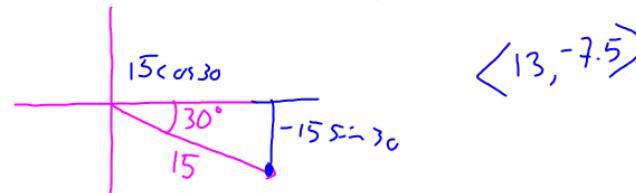
Examples

① Find mag. of  $u$  if  $u = \langle 7, 4 \rangle$   
 $\sqrt{65}$

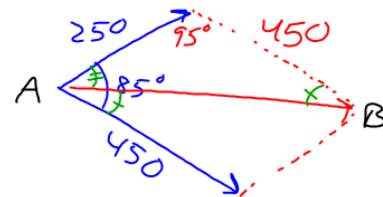
② vector  $A$  has a mag. of 10 and an angle of  $30^\circ$ ,  
 find horz./vert. components



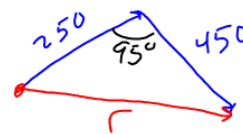
③ Write vector below in  $\langle a, b \rangle$  form



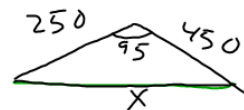
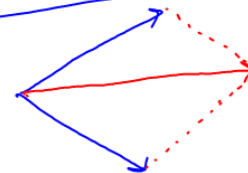
④ Two forces of 250 and 450 newtons  
 act on a point with an angle of  $85^\circ$   
 between them. Find the magnitude of the resultant force?



Head Tail



Tail Tail



$$X^2 = 250^2 + 450^2 - 2(250)(450)\cos 95^\circ$$

$$X = 533$$

Hw

- 7.4 # 5-16, 19, 21, 33, 34, 37,  
38, 43, 49, 50, 53, 56
- Write up on drop time/cart  
due Monday

http://mrwing.wikispaces.com/file/view/Trig\_FerrisWheel\_0910.pdf - Microsoft Internet Explorer

File Edit Go To Favorites Help

Back Forward Stop Reload Home Search Favorites Print Mail New Window Find

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6 / 6 63.8% Find

Trig\_FerrisWheel\_0910.gwb - 6/6 - Thu Nov 12 2009 12:44:28

HW

- ~~Set. 7.3 #1-7, 3-16, 40, 41, 49, 51, 52, 56~~  
 ↓  
 see p. 296
- Write up for drop time and cart due Mon.  
 as a function of  $x$ 
  - Correct Equations with everything defined (2pts each)
  - Why are we starting with the equation  $h(t) = -16t^2 + S_0$  and what do those variables mean (1pt)
  - How and why are we substituting for  $S_0$  and  $t$  in the drop time and cart equations? (3pts)
  - How can you check your equations? (2pts)